



Profile

a guide to military careers

December 1987



Next month's issue is PROFILE's annual "Basic Facts Edition," a ready reference guide to various aspects of military service. The February issue features a story on Marine Corps infantrymen, Air Force cardiopulmonary specialists, Navy aviation boatswains mates, Army flight operations and Coast Guard aviation electricians mates.



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Front: An aircraft carrier steams toward port. (US Navy photo)

Back: An Army operating room technician readys an operating room for the next patient. (Photo by Karen Polston)



The USS John F. Kennedy steams full speed ahead. (U.S. Navy photo by PH2 Kondos)

Floating Cities

**story and photos
by Dennis Tressic**

Imagine living in a special city where every resident works hand-in-hand to complete their jobs while striving to achieve a common goal—that of serving their country.

This isn't your average city such as Los Angeles or New York City. The cities being referred to are aircraft carriers, floating "cities," where more than 5,000 sailors per vessel work together to accomplish all assigned tasks given to it.

Every carrier is part of the

backbone and striking arm of U.S. Naval power. A mobile airfield, each carrier is equipped to go anywhere in the world, and is capable of facing most major surface, air, subsurface and land-based combatants.

The self-sufficient "cities" within their steel shells have many



One of the ship's several fire party crews goes through a simulated fire fighting exercise.

jobs and positions similar to normal cities. Just as their land-locked counterparts, each floating "city" has its own community services such as a fire station, hospital, airport and police force.

The police for example consists of the master-at-arms force who are responsible for maintaining law and order and assisting in all security matters. The fire department includes every sailor on board, since they all must be trained to fight fires.

In the event of an accident or sickness, the carriers' infirmaries are staffed with doctors and corpsmen to provide medical attention. Anyone requiring dental services will receive it from the dental department's dentists and technicians.

In addition to these public service ratings, each carrier's crew also consists of many other ratings for both air and sea. These

ratings are electronics, machine repair, enginemen, aviation maintenance, air traffic controllers, administration, legalmen, intelligence specialists and disbursing clerks.

Disbursing clerks for example take care of the financial paperwork to ensure the crew is properly paid. Mess management specialists prepare and bake the crew's food, which entails serving between 14,000 and 18,600 meals daily. Interior communication electricians maintain the ship's communication equipment including telephones and the entertainment system—an FM radio station and closed-circuit television stations. Both are operated by journalists who broadcast the news, movies and educational training films, in addition to preparing and distributing a daily newspaper.

Most of the daily news reported

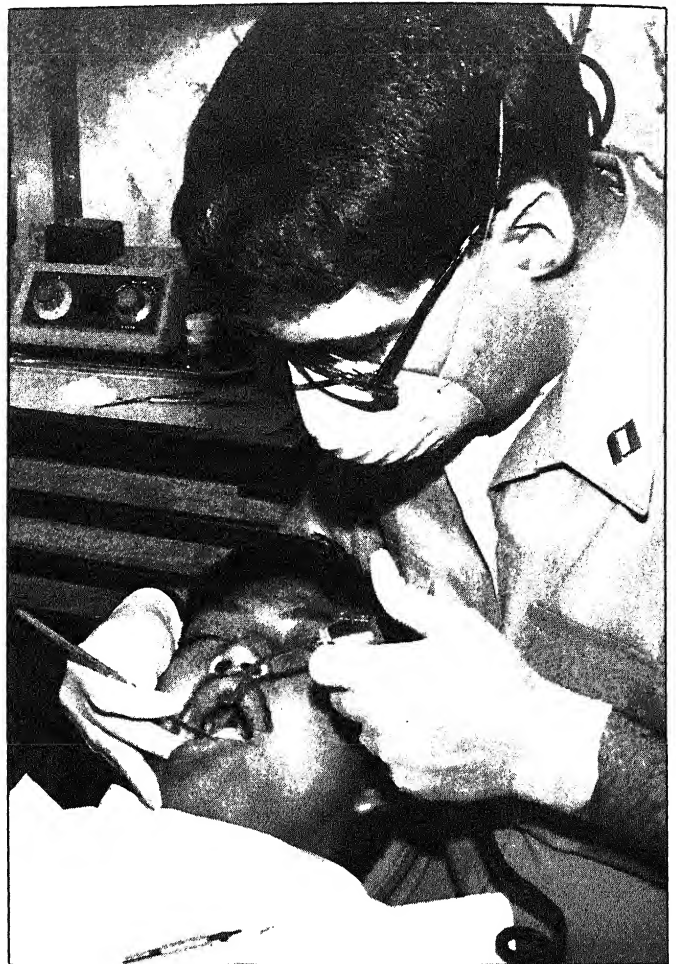
by the journalists reflects the activities occurring on the flight deck which is equal to approximately $3\frac{1}{2}$ football fields in length. The men launch, fuel, recover, direct, guide and maintain the ship's six different types of aircraft: SH-3 Sea King helicopters, E-2C Hawkeye planes, A-6E Intruders, S-3A Vikings, F-14 Tomcats, EA-6B Prowlers and F/A-18 Hornets. These aircraft are stored within the ship's steel shell.

These monstrous "cities" weigh approximately 95,000 tons and are between 18 and 24 stories high. They can travel at speeds more than 30 knots, powered by either 12 oil-fired boilers that feed four main engines or two nuclear reactors that provide enough fuel for 15 years, equivalent to 11 million barrels of oil.

To move these "cities" every U.S. carrier is maneuvered under the steady hands of the quartermasters working in close contact with the ship's "mayor," the commanding officer. These ships make port-of-call visits to such cities as Naples, Italy; Toulon, France; Haifa, Israel; Istanbul, Turkey; Malaga, Spain; Hong Kong; Japan and the Philippines.

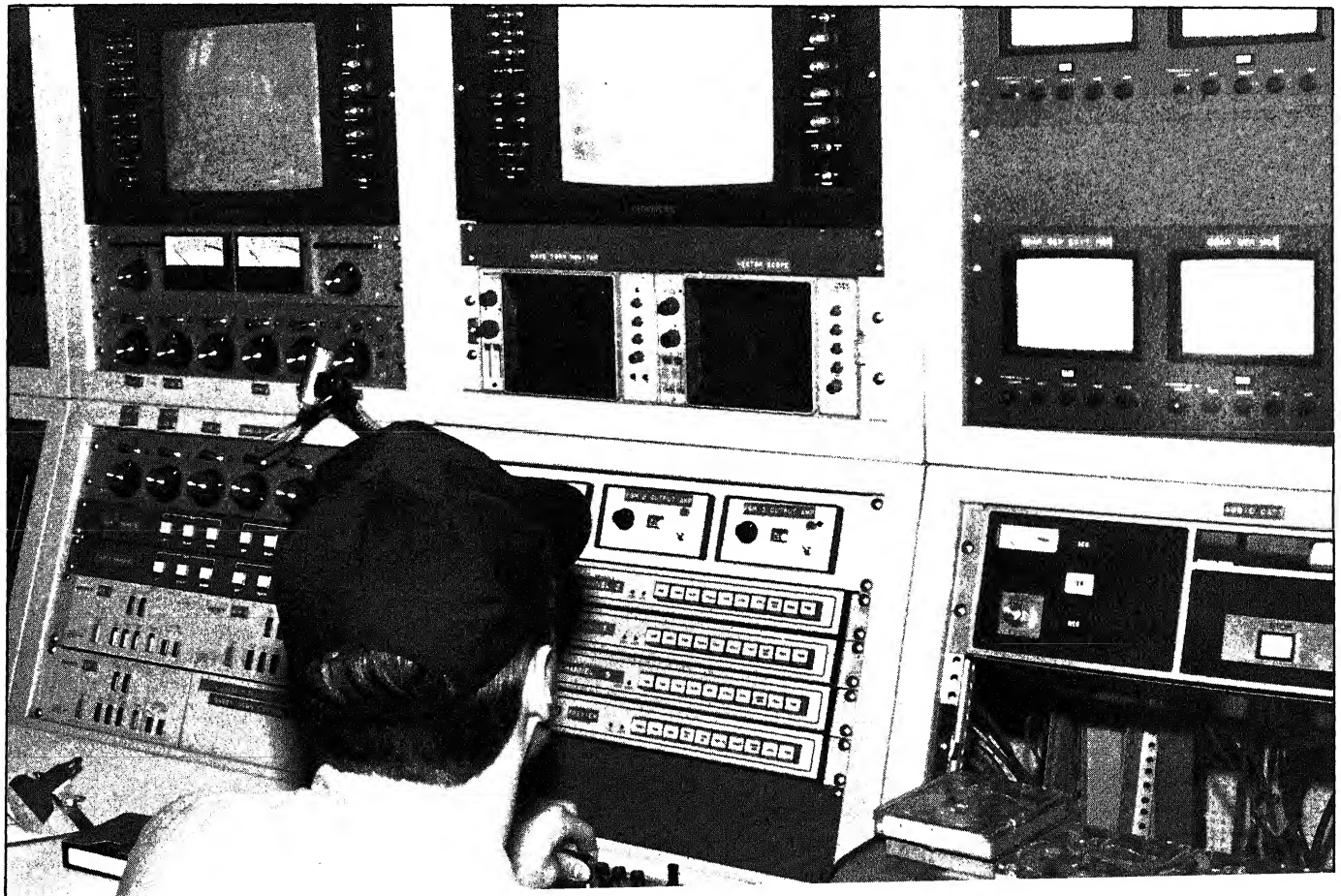
Everything on these ships is within walking distance. The barber shops, ship's retail stores, laundry and dry cleaning are a few of the benefits performed by the ship's servicemen.

Aircraft carriers are self-sufficient. Almost everything that could be found in a normal city can be found aboard the ships. These floating "cities" are a reality and are actual places where sailors live, work and strive to accomplish the Navy's mission of defending the country. ◻



Lt. Bill Hurt, a dentist, inspects a sailor's teeth for cavities.

A journalist monitors the shipboard information training and entertainment system (SITE) during a production.



Electronic Technicians

story and photos
by Dennis Tressic

"Mayday, Mayday!"

A panic-stricken voice crackles over the loud static filled radio. Battling rough seas 25 miles off Florida's east coast, a small cabin cruiser was taking on water. Unable to bail the water from the small boat, the ship's captain radioed for help.

Operating only miles from the distress signal, a Coast Guard cutter received the S.O.S. and proceeded to help the stricken craft.

"The signal from the cabin cruiser was picked up by the cutter's direction finder, which indicated the direction of the signal," said Petty Officer 3rd Class Scott DeBolt, an electronics technician (ET).

"Only a few hours before this distress signal came through, the direction finder was being repaired. Sometimes we can't rely on radar alone to find everything around us," explained DeBolt.

If a critical piece of our ship's communication equip-

ment breaks down such as, radar or sonar equipment it then becomes first priority to get it back in working order," DeBolt continued.

"It's exciting that people depend on us to make these priority repairs in order that our ship may precisely carry out its' mission."

Electronic technicians receive their training through the 25-week course at the Coast Guard Training Center, Governors Island, N.Y.

"Students learn about electronic and digital circuits, power supplies, transmitters and receivers. They also gain experience in troubleshooting and repairing electronic equipment by doing preventive maintenance diagnostic tests," explained Chief Warrant Officer Robert Minugh, assistant electronics school branch assistant chief.

ETs especially make use of this experience when out to sea, DeBolt concluded. "For example, when we hit rough seas responding to distress calls, every piece of our communication equipment must work in order for us to successfully carry out our mission." ♦

Don Borries, an electronics technician does an alignment on a radar indicator.





An air defense controller sets up a radar site.

Defenders of the Skies

story and photos
by Karen Polston

"I've trained in deserts, on mountain sides and in jungles. I've been to several countries in Europe and the Far East. In my occupation, I may be sent anywhere in the world."

Worldwide travel is part of the job for Marine Corps air defense controller, Sgt. Robert Garcia, assigned to Marine Air Control Squadron 24, Dam Neck Naval Air Station in Virginia Beach, Va.

"Basically, an air defense controller directs airborne aircraft to 'where the action is,'" Garcia explained. "We monitor aircraft on radar scopes and give our pilots the coordinates of 'enemy' aircraft and 'bogies' (unidentified aircraft). We're the air traffic controllers of aerial battles.

"We help our pilots during an intercept mission by figuring the speed and height of the bogie and computing the geometry of the intercept course. Our computations are done manually, which has advantages. Computers may be faster, but we can't take the chance of a malfunction during a wartime scenario," Garcia said.

Air defense controllers operate out of small, mobile buildings that can be airlifted to where the training exercises are being held. "Our maintenance personnel assist us in packing, transporting and reassembling the buildings and the antennas used to receive and transmit data," Garcia said. "On the average, we participate in two exercises a year, spending approximately a month training.

"We interact with the Air Force and Navy pilots and controllers frequently and this builds good rapport between the services. If they need controllers during an exercise, we're happy to work with them," Garcia said.

"Marines coming into this field are trained in two stages. First they complete a six-week course at Marine Corps Base Twentynine Palms, Calif., where they gain a basic familiarization with the equipment and Federal Aviation Administration regulations. They then participate in on-the-job training as air defense operators. After approximately one year, they attend the air defense controller course which gives detailed training in tactics," he explained.

"The year spent as an operator gives the Marine job experience. When they return for the controller's course, they have the background needed for studying tactics."

Marine controllers may be assigned to bases in North or South Carolina, California, Arizona, Colorado, Virginia, Hawaii or Okinawa, Japan. "These are our 'home bases,'" Garcia explained. "From these duty stations, we travel worldwide wherever we're needed.

"For me, the best part of the job is knowing I'll be able to help our pilots during an air battle if a hostile situation should occur," Garcia concluded. "But it's also nice to have the added bonus of traveling to different parts of the world." ◻



Sgt. Robert Garcia sits at his control board, headphones in place, preparing to direct pilots during an exercise.

Flightline

caretakers

story and photo
by Linda Mitchell

Motorists who regularly use heavily-travelled highways tune in daily to radio and television stations for traffic reports. These hourly updates are made in an effort to ease potential traffic snarls. Commuters become aware that they must leave home earlier to bypass problem areas and arrive at their destination on time.

"We perform a similar service," said Technical Sgt. Bill Lewis, a flight data technician and non-commissioned officer in charge of Airfield Management, 354th Combat Support Group Operations and Training, Myrtle Beach Air Force Base, S.C. "Our primary job is to make sure the airfield remains open as much as possible for incoming flights."

"When we close a runway for extended repairs, we use NOTAMS to notify everyone."

"We physically inspect the flightlines twice a day. During daylight, we look for cracks or potholes in the concrete and asphalt. At night, we check all of the airfield lighting. When we find discrepancies, we call the Civil Engineers, who come out and make repairs," Lewis added.

"When we need to close a run-

way for extended repairs," Lewis continued, "we notify bases worldwide over the Notice to Airman System (NOTAMS). This informs pilots that they must find an alternative base to land at until the repairs are made."

Aside from making runway inspections, flight data specialists are involved in other aspects of flying. They provide pilots with all the material needed to fly from one base to another. "We distribute up-to-date flying publications to the squadrons," Lewis said. "These include the pilots' checklists, books and charts, as well as topographical and altitude maps and charts. Our flight material covers every corner of the globe, so no matter where our pilots fly, we have the material to get them there."

In addition to flight materials, flight data specialists provide ground support. "We work in close conjunction with all agencies on base," Lewis explained. "Using computers which link us directly to the weather squadron, we can call up the most up-to-the-minute weather and flight information for the pilots."

"When we're informed about bad storms in the area, we tell incoming pilots. At the same time, we relay the information to other base agencies."

"We also get weather updates on other parts of the world from the weather squadron. We can inform pilots where weather trouble spots are so they can avoid the areas," Lewis said.

"When a pilot experiences an inflight emergency," Lewis added, "he notifies the air traffic control tower and us simultaneously. We then alert the fire department, hospital, security police and other agencies."

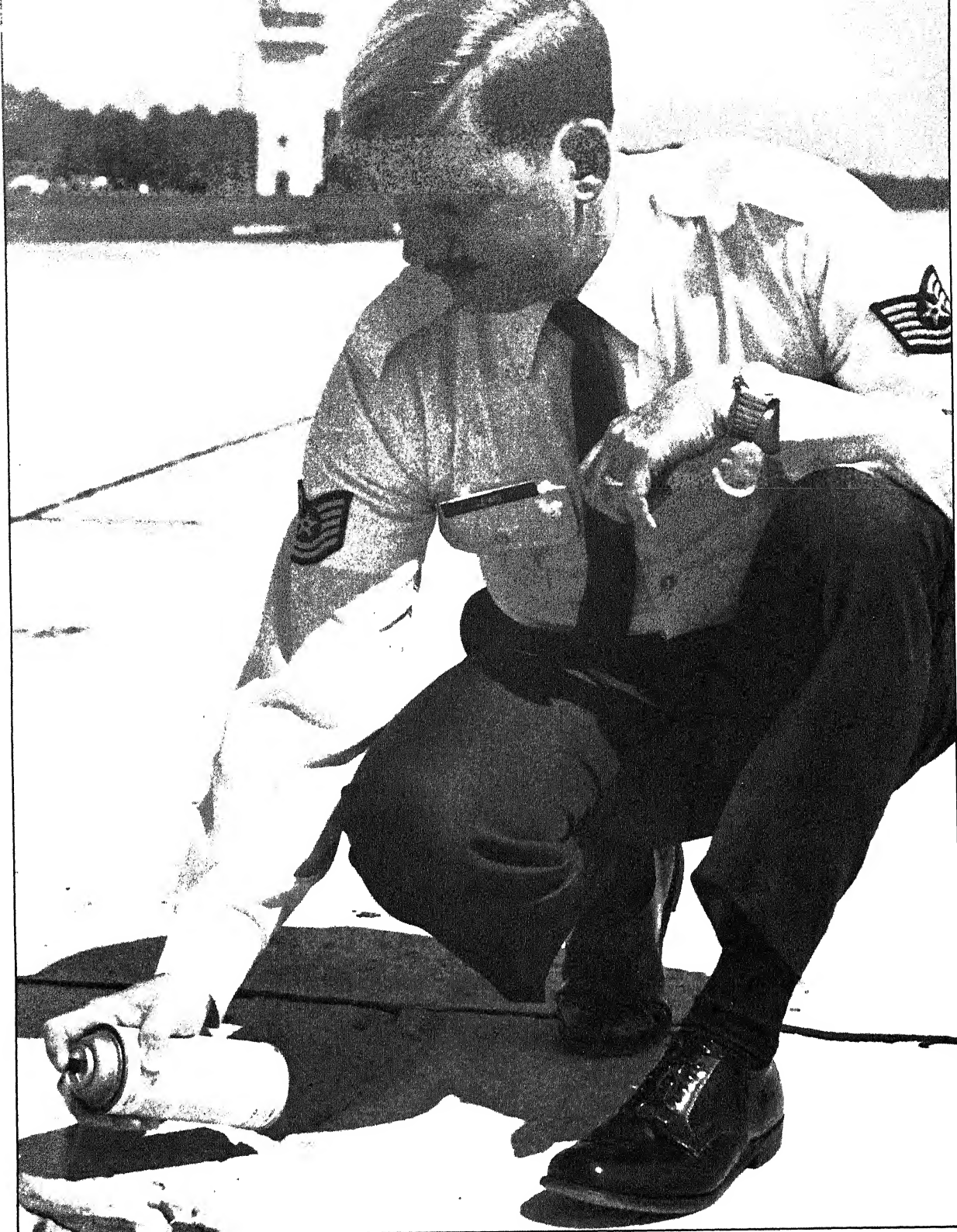
Flight data specialists also act as passenger terminal specialists.

Besides assisting pilots and aircrews, flight data specialists at Tactical Air Command bases act as passenger terminal specialists. "We must be pretty well versed in ticket and baggage processing procedures as well as public relations," Lewis said.

Flight data specialists must also be good drivers, because they are responsible for the flightline driver training program at each base. "We teach all base personnel driving and safety procedures necessary when maneuvering around aircraft and flightline equipment," Lewis added.

There's no technical school for this career field. Flight data specialists learn everything on the job, including learning radio communication procedures and language.

A pilot-to-dispatch radio provides the communication link between base operations and the in-flight pilot. Two-way walkie-



Technical Sgt. Lewis uses spray paint to designate a crack in the flightline concrete for repair.

talkies keep flight data specialists on the airfield in contact with base operations. "We must know the phonetic alphabet; for example, a is alpha, b is bravo, c is charlie. We must be able to quickly translate information into an international flying language

understood by both foreign and American aircrews," Lewis continued. "To perform this job, flight data specialists must have a clear speaking voice which will project well through static or a gas mask."

Keeping the flightline open to

incoming traffic is a prime concern for flight data specialists. But if flightline or weather problems do occur, they, like their radio and television counterparts, provide clear, concise, worldwide information to avoid flightline "traffic snarls." ♠

Operating Room Technicians

story and photos
by Karen Polston

"The first time I went into an operating room, I fainted. That's not the ideal way to begin a career."

Sgt. Abraham Smith, an Army operating room technician at McDonald Army Community Hospital at Fort Eustis, Va., smiles at the memory of his initial visit to the operating room (OR).

"I've been an operating room technician for nearly two years and now I enjoy assisting the doctors and observing the techniques used during surgery," he explained.

"Orthopedic surgery is the most interesting for me because no two cases are the same," Smith said. "During general surgery, it's basically the same set up and the same techniques for each procedure. But in an orthopedic case, no bone is broken the same way and the procedures used are a little different each time.

"We stay busy. In addition to assisting during operations, we are also responsible for setting up the OR before the procedure, establishing and maintaining the sterile environment the surgeon operates in and cleaning up after the procedure is completed.

"Another time-consuming portion of the job is the sterilization procedure for the surgical instruments and other materials used in the OR. We use heat and steam for the instruments and gowns. Gas sterilization is used for the delicate instruments and plastic items. Because we average four to six operations daily, sterilization procedures are an ongoing responsibility."

The OR technician performs as either a scrub

technician or as a circulating technician during surgery. "The scrub technician arranges the instruments, drapes the patient in sterile cloths, hands instruments to the surgeon and ensures the sterile environment is maintained," Smith said. "If someone becomes contaminated (touches something that isn't sterile), we ensure they change their gloves and gowns before continuing the operation.

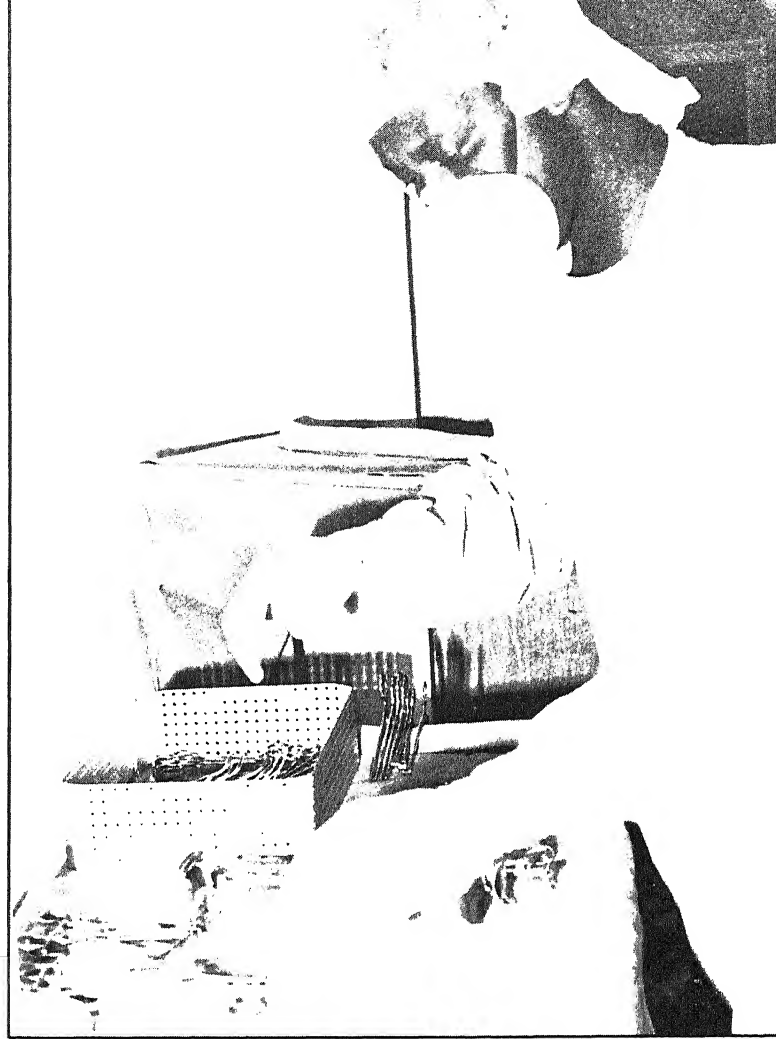
"The circulating tech helps in positioning the patient and assisting the anesthesiologist in preparing the patient for the surgery. The circulating tech is available to go in and out of the OR to bring in needed items or monitor the machines to ensure they are functioning properly," Smith explained.

According to Smith, the training is intensive. The first phase is a 16-week course taught at Fort Sam Houston, San Antonio, Texas, where basic operating room procedures and sterilization techniques are taught. The second phase is six weeks of on-the-job training where new technicians learn the finer points of the job by actually performing the tasks under the direction of experienced operating room technicians. Monthly training sessions keep the technicians updated on new developments in the field.

Opportunities for continuing education are available also. "I'm studying to become a registered nurse," Smith explained, "and I want to stay in the operating room field. I enjoy the teamwork and the camaraderie that is shared. In addition to the experience I'm gaining in my career, being 'in the middle of the action' during a procedure and watching the surgeons work fascinates me," Smith concluded. "I'm just glad I've never had a repeat performance of my first operating room visit." ◻



The circulating technician helps the scrub technician don a sterile gown.



The instruments are laid out in preparation for the procedure.



The scrub technician screws on sterile lamp handles to the operating room lights. During the operation,

the scrub technician can position the lights for the surgeon and not become contaminated.



Critter Care

story and photos
by Karen Polston

The cat was scared. Her claws scratched on the steel table but there was no place to hide. Her owner stood by with a worried look. The injection was prepared and as the owner held the cat, the Army animal care specialist administered the vaccination.

Stroking the cat's head, the animal care specialist comforted the frightened creature. "She's up-to-date on all her other inoculations. We'll see you both next year for her next rabies vaccination."

Caring for the pets of military members is part of the job for Staff Sgt. Luther G. Nash, animal care noncommissioned officer in charge of the Animal Disease Prevention and Control Facility at Fort Eustis, Va. The Army is the only service with a veterinary corps.

"Our main mission is to care for the military working dogs, however, we also provide care to household pets," Nash explained. "We see approximately 20 animals a day here. In an animal clinic in the states, we provide vitamins, shampoos and flea controls and administer vaccinations to control transmittable diseases. However, the veterinarian doesn't perform any surgery. Overseas, Army veterinarians are authorized to perform surgery."

"Everything we do is supervised by the veterinarian. That's the most important thing to remember about this job. We're not veterinarians and we're not allowed to diagnose, prescribe or perform surgery," Nash said. "We provide the treatment the veterinarian prescribes."

Nash considers one aspect of this treatment unpleasant but necessary. "Occasionally, because of ill-

ness or old age, an animal must be 'put to sleep.' Many people don't realize this is also one of our duties. For me, the euthanasia process is the worst part of this job," Nash said. "For someone entering this career field, it's something to think about."

Animal care specialists learn their trade during an intensive nine-week course at Walter Reed Army Medical Center, Washington, D.C. "It's a difficult course and the student has to be motivated. We began with 30 people. The graduating class consisted of 14," Nash said. "During the course, we're taught chemistry and the basic sciences, surgical procedures to assist the veterinarian, animal anatomy and vaccination techniques."

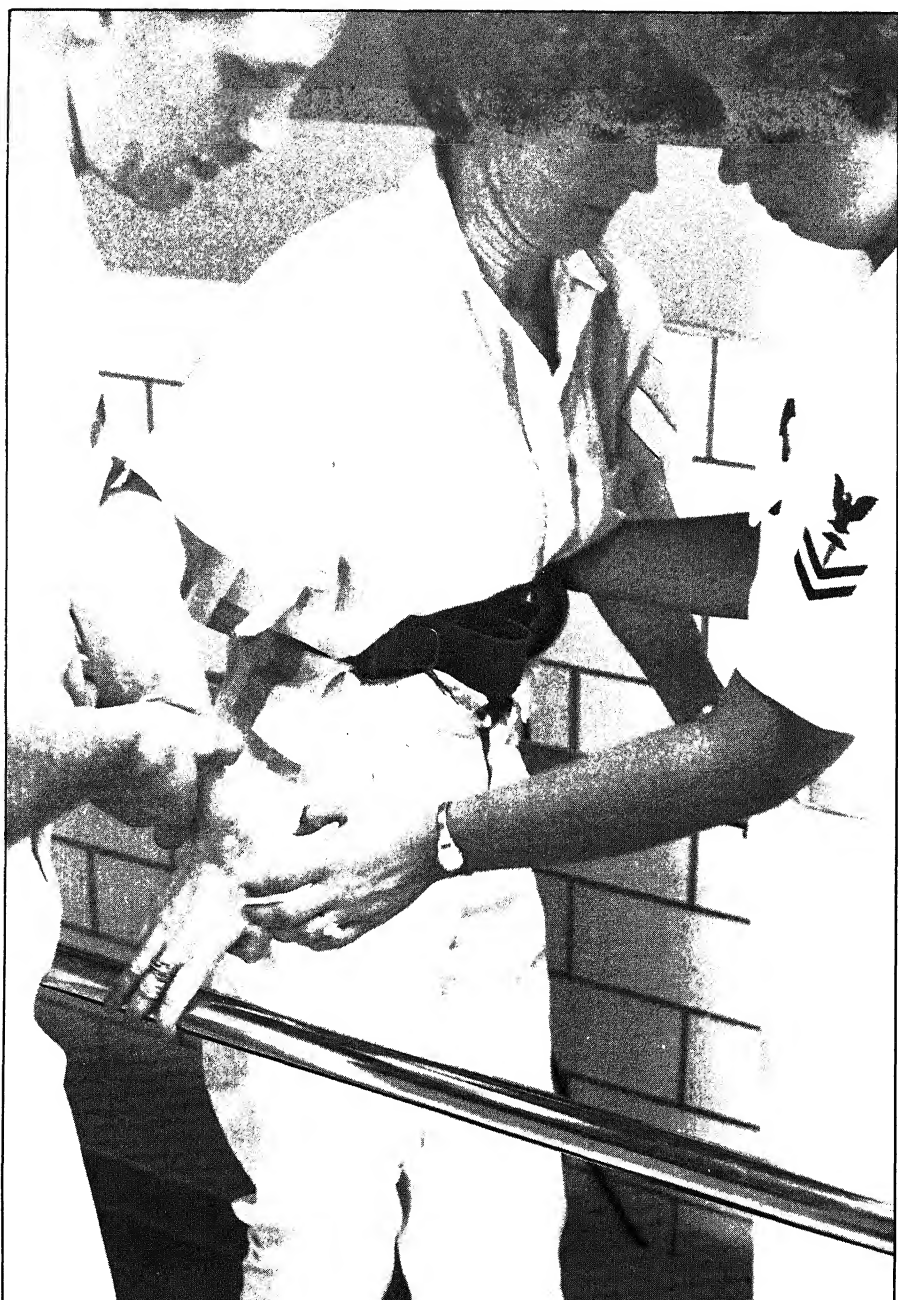
"Each student is assigned an animal to work with during the course. I had a German shepherd for the first portion of the course and a German short hair pointer for the second half. The animals are rotated because the students form strong attachments to their animals and it becomes hard to leave them when the course is completed," Nash explained.

In addition to working with household pets, Nash has also had the opportunity to work with national park rangers, helping with wild animals. "One of my 'patients' was a beaver who had been coated with pesticides. I cleaned him up and released him into a lake. I've also helped nurse a red-tailed hawk back to health. In 1981, while I was stationed at Anniston Army Depot, Fort McClellan, Ala., I assisted in tranquilizing, tagging and transporting buffalo in order to trim down the herd. That's hard but fascinating work," he said.

"While working with domesticated animals, I've only been bitten once and I consider that incident my fault. The main thing to remember is that the animal is generally scared or nervous. Don't be afraid of them," Nash concluded. "However, I have learned to be wary when the owner claims the animal 'doesn't bite.'"

The animal care specialist prepares to give a pet an injection.

Physical Therapy Techs



story and photo
by Linda Mitchell

Navy Petty Officer 2nd Class Chere Clark feels great satisfaction when her patients accomplish even simple tasks.

"Watching a stroke victim raise her arm for the first time is wonderful. When a patient arrives here in a wheelchair and walks out of here unaided a year later, I feel great," explained the physical therapy technician at the Portsmouth Naval Hospital, Portsmouth, Va.

Physical therapy personnel in the Army, Navy and Air Force labor to help patients recover use of muscles and limbs after suffering strokes, comas or other physical injuries.

Although most of the work is done in outpatient clinics, the technicians also work with comatose and stroke patients. "We perform range of motion exercises, which are stretching movements to prevent tightening of unused

Petty Officers 2nd Class Chere Clark and Rick Nickerson help a wheelchair patient learn to walk again.

muscles, on bedridden patients," said Spec. 4 Jackie English, a physical therapy technician at Walter Reed U.S. Army Medical Center, Washington, D.C. "We try to keep the muscles loose so that when the patient recovers sufficiently, the muscles can be re-educated to function properly."

"We use electric stimulation on stroke and paralysis patients," said Petty Officer 2nd Class Rick Nickerson, a physical therapy technician at the Portsmouth hospital. "Normally, muscles are controlled by impulses from the brain, but when these impulses can't be produced, the muscles need to be artificially stimulated until they can function on their own."

Treatment is a combined effort of physical therapy specialists and physical therapists.

Most patients are first diagnosed by a physician, orthopedic doctor or surgeon before referral to the clinic. Physical therapists prescribe the form of treatment the technicians will administer. The therapists and technicians then work together when changes, such as increasing or decreasing treatment frequency, need to be made.

"We treat walk-in patients with minor problems such as a strained shoulder, twisted ankle or lower back pain," said Technical Sgt. David Gillespie, a physical therapy technician at Malcolm Grow U.S. Air Force Medical Center, Andrews Air Force Base, Md. "They can come to the clinic for assistance without being referred by a doctor."

In the therapy modality room, the technicians treat patients with sports or other injuries. "A modality is a form of treatment," explained Nickerson. "The different modalities we apply include moist heat packs, cold packs, traction and ultrasound. Ultrasound is a small machine with a

vibrating wand attached. The vibrating sound waves penetrate into the area with deep heating sensation which relaxes the muscle."

Patients also receive whirlpool, or hydro-therapy, treatment.

Physical therapy technicians also use the Transcutaneous Electrical Nerve Stimulation (TENS) unit to decrease pain. "The brain perceives one impulse at a time, in this case, pain," Gillespie explained. "When all other pain relief treatments fail, we use the TENS unit, which stimulates the brain to produce a natural chemical pain killer. The brain then transmits this chemical through the bloodstream to the affected area."

Patients can also be referred to the whirlpool, or hydro-therapy, room for help. "We use hot and cold water treatments," said Airman 1st Class Danielle Fry, a physical therapy specialist at Malcolm Grow. "Hot water increases the blood flow, which helps heal torn ligaments and tendons. We then use cold water to decrease swelling. Hot water also aids in the burn and open wound healing process, because the water vibration cleans and debreeds dead tissue, dirt and infection from the affected area."

The clinic's gym room looks much like a weight and workout room in a high school or college gym. "We use machines to exercise, strengthen and test various muscles and tendons and joints, like elbows, shoulders, knees and ankles," Clark said.

Teaching balancing and coordination techniques is important.

"In addition to helping patients exercise, we teach amputees balance and coordination tech-

niques to use with new artificial limbs. We make sure they, along with people using crutches and canes, can maneuver on flat surfaces and up and down stairs before they leave the clinic," said Spec. 4 Jim Merrifield, a physical therapy technician at Walter Reed.

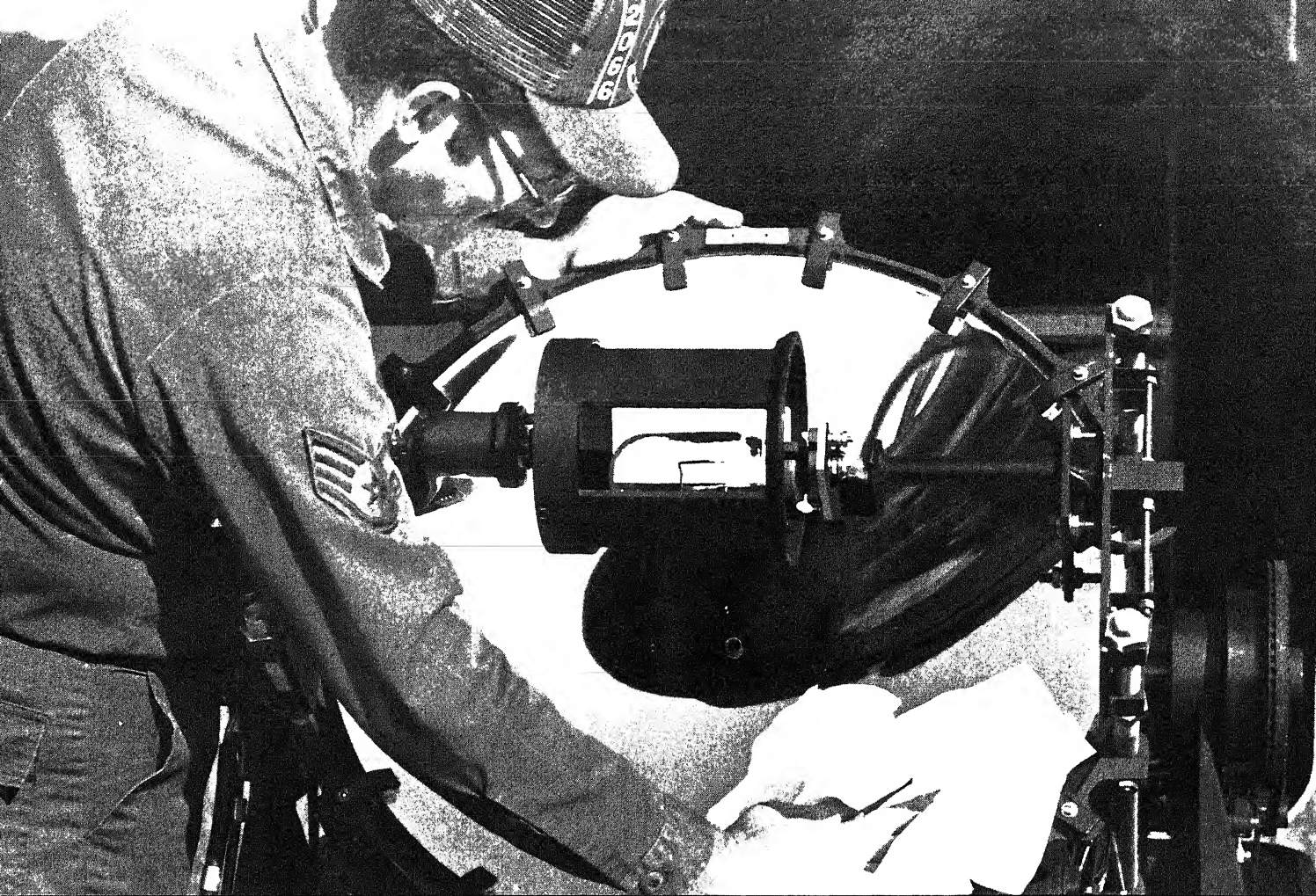
Although technical school course lengths and locations differ, the curriculum is the same. Army and Navy personnel at Fort Sam Houston, Texas, and Air Force people at Sheppard Air Force Base, Texas, participate in medical war readiness exercises during the first week. They run an obstacle course carrying litters and participate in gas mask and chemical warfare training. They also learn triage, which is emergency on-scene diagnosis and treatment.

Anatomy, muscles and medical terms are part of the curriculum.

In school they learn anatomy, with emphasis on identifying the muscles and diseases which affect them, and memorize medical terminology. Courses in psychology are also taught. "We help patients who have been through traumatic experiences," Merrifield said. "While aiding them physically, we must also help them deal with their emotions. Additionally, it takes a lot of patience on our part to help during drawn-out recoveries."

Classroom experience operating the machines is followed by on-the-job training at service medical centers during which trainees work under the supervision of experienced trainers.

Often the recovery process is quick and easy, like when patients recover from broken limbs or strained muscles. But when the process has been long and arduous, Clark concluded, "It's wonderful to see people walk out of our clinics when it was thought they never would walk again!"



Staff Sgt. Pelas cleans a mirror on the GMQ-13 cloud height projector during a preventive maintenance inspection.

Weather equipment mechanics

story and photos
by Linda Mitchell

During any given day, we can rely on our sense of sight to predict what the short-range weather forecast will be. This system works pretty good on a day-to-day basis, but for long-range predictions, we seek the assistance of the local weather meteorologist on the radio and television.

When making these long range forecasts, meteorologists depend on machines to provide them with information, including satellite pictures, dew point and barometer readings, cloud height, and total inches of rainfall.

"We make sure this equipment works, so the ob-

servers and forecasters can provide accurate weather information," said Staff Sgt. Ernest J. Pelas Jr., a weather equipment repair technician in the 2066th Communications Squadron at Myrtle Beach Air Force Base, S.C. "Observers and forecasters use this information to predict weather for base flying operations and field exercises.

"Weather equipment maintenance men and women perform routine preventive maintenance on the storm detection radar set, wind speed and direction measuring and recording equipment," Pelas said. "We also work on the cloud height indicator, which measures the distance between the ground and the cloud's base.

"The most modern piece of computer equipment

ve service is the computerized digital barometer/altimeter sensing indicator (DBASI). The microprocessor-controlled DBASI can calculate altimeter settings and barometric pressure in inches or in metric millibars," Pelas said.

Weather equipment repair specialists learn microprocessor, as well as the older conventional tube-type, technology in approximately 20 weeks at Chanute Air Force Base, Ill. Besides studying techniques to replace tubes and wires, they also learn to repair microchips and troubleshoot other electronic components.

Laser technology is also being introduced into the curriculum. "The Air Force is introducing into its inventory a tactical cloud height indicator which uses laser technology," Pelas explained. "The indicator aims a laser beam at the cloud to measure the height, and the measurement is indicated on a digital readout. We also have digital readout equipment coming in for the temperature/dew point set and the wind system."

While most weather equipment repairmen report to base communication stations after technical school, some are afforded the opportunity to work on solar observation equipment, mostly located in remote sections of Guam, Hawaii, Australia and Italy. "The equipment, which measures the electromagnetic spec-

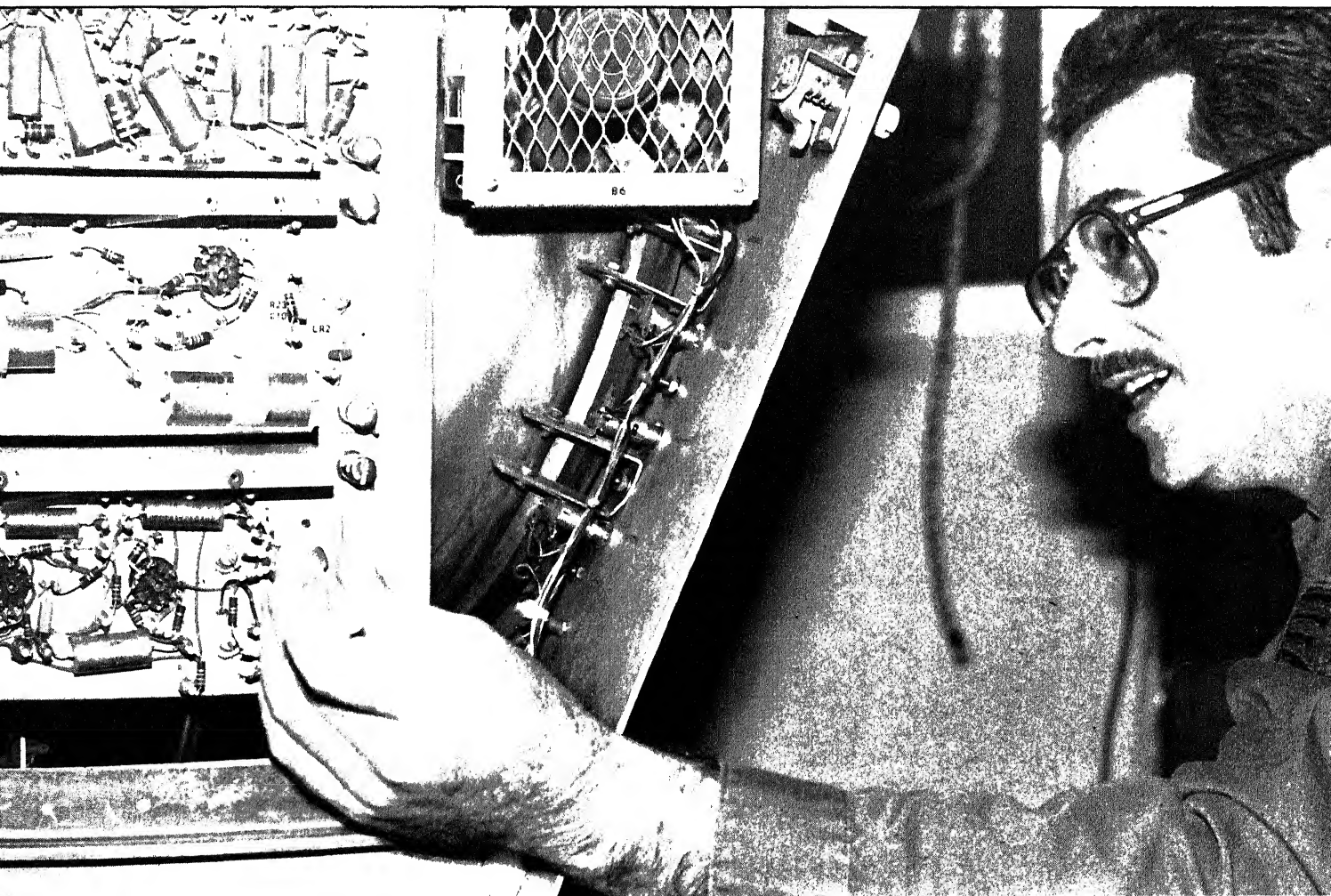
trum, x-rays, and ultra-violet rays emitted by the sun, aids observers in studying the sun's surface activity and its attending phenomena. Using this information, observers can predict sun spots, and when communications blackouts and satellite transmission problems may occur. Weather equipment repair technicians must ensure that this equipment operates accurately at all times," Pelas said.

Other technical school graduates will be required to work with airborne weather equipment. "Airborne weather equipment maintenance people fly in the Air Force's HC-130 Hurricane Hunters," Pelas continued. "They must be available to make quick repairs on the dropsondes, radiosondes and other electronic equipment packages which are dropped into the eyes of hurricanes and other turbulent weather. These devices track such storms and transmit vital information, such as wind direction and speed, back to the base weather station.

"Base weather forecasters and observers rely on this weather prediction machinery when providing accurate weather updates to agencies planning flying activities and field exercises," Pelas concluded.

"Weather equipment repair specialists must make sure the equipment provides this information accurately and quickly." ♦

Staff Sgt. Pelas aligns the range height indicator on the nonoperational FPS-77 storm detection radar.





The courtyard of the San Xavier Mission on the San Xavier Indian Reservation provides visitors and worshippers with a restful setting for meditation.

Tucson, Arizona

Land of cacti and cowboys

story by Linda Mitchell
photo courtesy of Metropolitan Tucson
Convention and Visitors Bureau

Tales of the Old West are plentiful. Television shows such as "Bonanza" and "Gunsmoke" and movies like "Butch Cassidy and the Sundance Kid" depict the often-rowdy life in frontier towns. Viewers watch action-packed saloon brawls, gunfights and bank robberies and see the cavalry, bugles blaring, race across the desert in hot pursuit of the "bad guys."

Most of the Old West towns given such names as Deadwood Gulch, Tombstone and Dodge City are now ghost towns or have been turned into visitor attractions. One such town, Old Tucson, Ariz., still exhibits the frontier spirit of the silver-mining town it was in the mid 1800s.

Old Tucson, built by the Spanish in 1776, is situated in Tucson Mountain Park bordering on the San Xavier Indian Reservation. The town is authentic and well-preserved and has been featured in movies, including "Rio Lobo" starring John Wayne. Mock gunfights, tours, restaurants, shops and rides entertain visitors daily.

Since the 1700s, Tucson has continued to expand. "New" Tucson, east of the Tucson Mountain Park, features many 18th and 19th century homes and buildings, exhibiting a mixture of Spanish, Indian and western architecture. These buildings include the home of John C. Fremont, fifth Arizona Territorial Governor. Fremont was also a cavalry officer and explorer who established wagon trails across the Plains and through the Rocky Mountains into California.

Twentieth century growth includes Davis-Monthan Air Force Base, featuring the world's largest outdoor

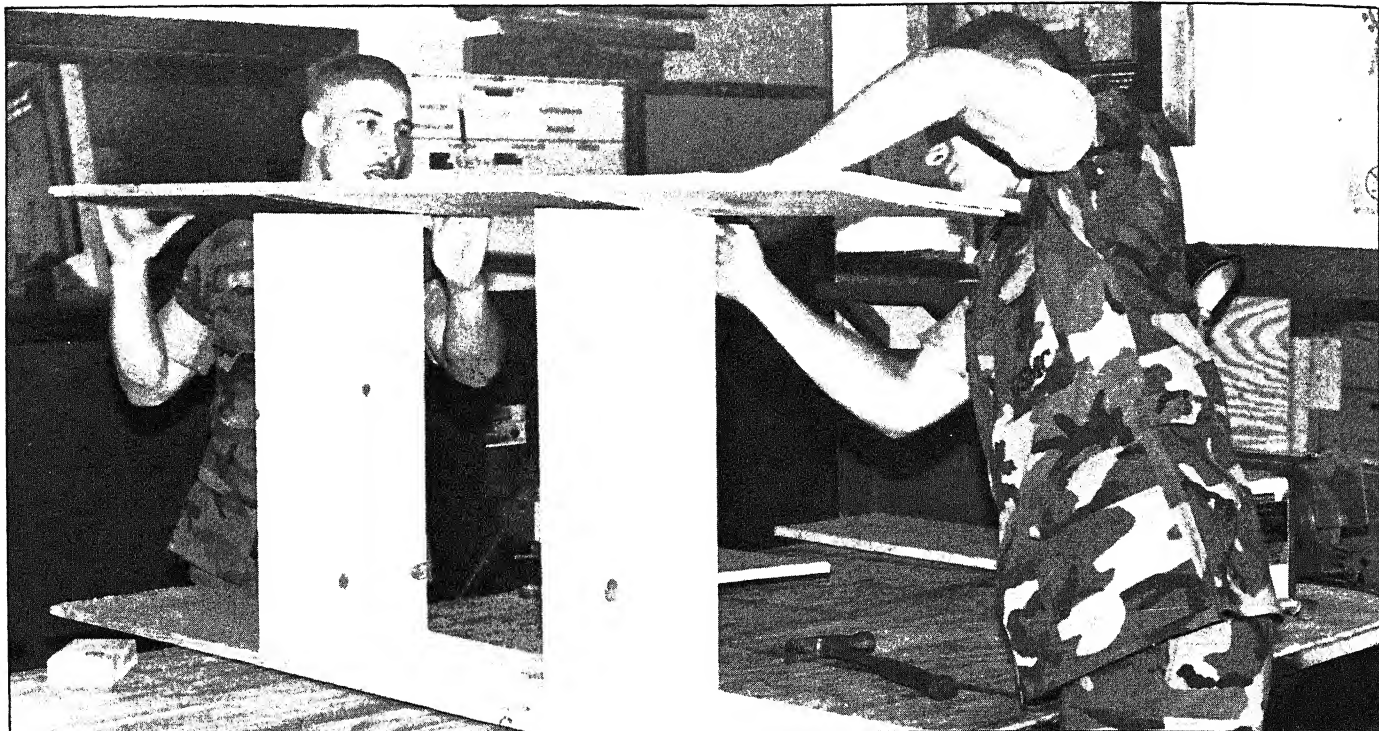
aircraft storage facility as well as being home to Air Force men and women assigned to the A-10 Combat Crew Training and OA-37 Forward Air Control Operations facilities.

Centrally-located, the University of Arizona offers most academic disciplines and includes the Arizona State Museum and the University of Arizona Museum of Art. Both museums provide visitors with insight into the natural, environmental, and cultural history of the southwest, as well as Middle Ages through 20th Century art. Astronomy lovers can visit the university's Grace H. Flandrau Planetarium.

Far from being the rowdy, wild west town of the 1800s, modern-day Tucson offers many forms of entertainment, including art galleries and museums, opera and theater companies and a symphony orchestra. Visitors can browse through shops selling cowboy wear; finely-crafted Spanish and Indian jewelry, leather goods and pottery; antiques and souvenirs. Dining fare includes Spanish/Mexican and other international cuisines, as well as the ever-popular American steak dinner.

The mild, dry, mostly sunny climate, with summer temperatures in the 90s and winter temperatures dipping into the 30s, makes many outdoor recreational activities in the Tucson area enjoyable. These include visits to cactus farms and wine vineyards; western recreation ranches; hot air ballooning excursions; and sports, including tennis, golf, swimming, fishing and horseback riding. A multitude of mountain trails, canyons and caves await exploration. A large cactus forest at the Saguaro National Monument East and guided desert hiking tours also are possibilities.

While it may not be the rowdy cowboy/mining town it once was, Tucson continues to display the frontier spirit that made the Old West famous. ◻



The bookcase begins to take shape.

Fix-It Crew

story and photos
by Karen Polston

Sawdust flew as saw blades bit through the wood. The heavy thud of hammers competed against the saw's high-pitch whine, resulting in a disjointed symphony.

The Marine Corps carpenters, stationed at Marine Corps Base Camp Elmore, Norfolk, Va., work in unison to complete the project needed for an upcoming field maneuver.

These Marines aren't just carpenters...they're combat engineers and have been trained in construction, land mine warfare and demolitions, in addition to carpentry.

According to Cpl. Arthur Cunio, noncommissioned officer in charge of the carpentry shop, "Where a combat engineer is stationed determines the type of work done. The combat engineers stationed here learn the finer points of the carpentry trade. Combat engineers stationed at other Marine Corps bases may do work in demolitions or construction.

"We're the 'fix-it' crew. We build and remodel rooms on base and do the maintenance work and upkeep on the camp's buildings, in addition to working on projects for military exercises," Cunio said. "We've just been tasked to build platforms needed for flooring during an upcoming exercise. The shop has been set up in assembly-line fashion and each carpenter has a specific task. Working as

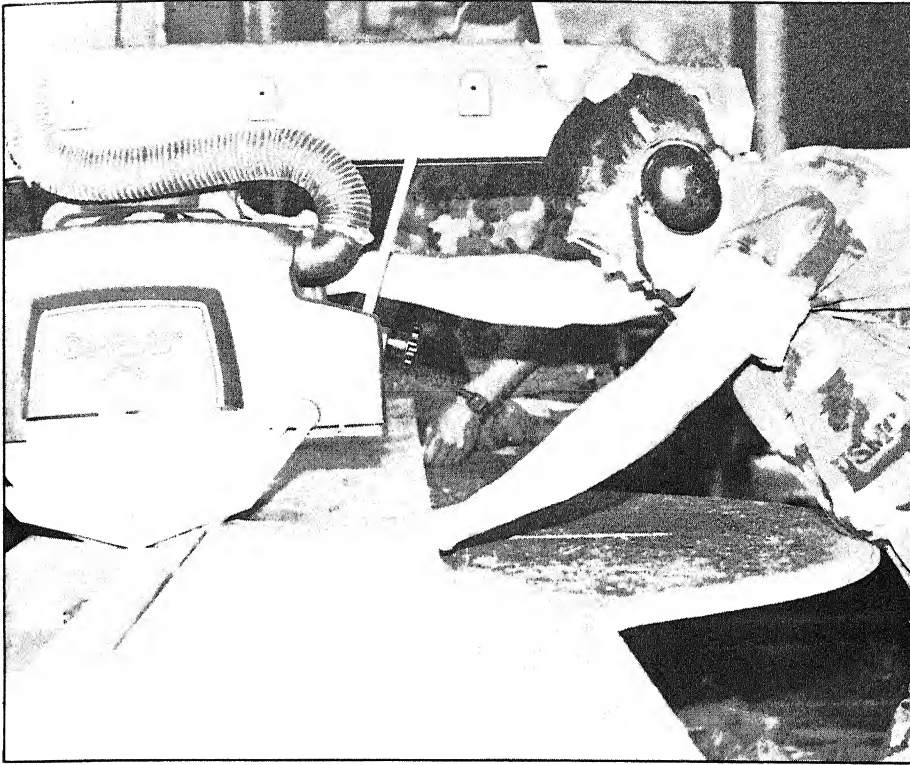
a team makes the job easier and more efficient."

The combat engineers learn their trade at Marine Corps Base Camp Lejeune, N.C., during a seven-week course that instructs the Marines in carpentry, demolitions, explosives, barbed wire entanglements, bridging and rigging, masonry, and pneumatic tools. "We get the basics in school and then more detailed hands-on training at our duty station," Cunio explained.

The combat engineers also have the opportunity to attend advanced training at the seven-week journeyman course taught at Camp Lejeune, where they learn more about demolitions and the formulas needed to place explosives.

"The variety of jobs in the combat engineer field offers a good opportunity to learn many different skills," said Lance Cpl. Gilbert A. Reed Jr., a carpenter at Camp Elmore. "At my next duty station, I could possibly stay in the carpentry field or I may go into demolitions or construction."

With safety goggles and hearing protection in place, the carpenters continue to work. As the sawdust flies and the saw whines as it bites through the wood, the platforms begin to take shape. Cunio shouts to be heard over the noise of the machinery, as he concludes, "This job is great because we never know what we may be called upon to do. We may be remodeling an office, fixing a door knob or constructing platforms. There's no time to be bored." ♠



After being measured, the wood is cut to the proper length.



Shelving is nailed into place.



Sawdust flies as wood for a shelf is cut.



Operating Room Technicians — page 12

The nation needs men who think in terms of service to their country and not in terms of their country's debt to them.

General Omar Bradley

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